CONCERNED CITIZENS OF MONTAUK

FORT POND FLOATING WETLANDS

CONCERNED CITIZENS OF MONTAUK | WATER QUALITY REMEDIATION PROJECT

Floating wetlands technology is an innovative solution engineered to enhance the natural process that occurs between water, plants, and microorganisms to remove excess nutrients and contaminants from impaired waterbodies in a passive and natural way.

The Fort Pond Floating Wetlands water quality remediation project uses 7,200 native plants specifically chosen for their ability to thrive in Fort Pond's environment. The plants are secured in special perforated containers that fit into custom mats designed by family-owned, Florida-based company Beemats Floating Wetlands. As the plants mature, their roots will uptake excess nitrogen and phosphorus from the pond as food. The goal is to reduce the nutrient load in the pond to lessen the extent and severity of the harmful algal blooms (HABs) which have plagued Fort Pond for years.

These floating wetlands are seasonal and reusable. At the end of the growing season, when the plants reach full maturity, the mats will be removed from the pond and the nutrient-rich plant material will be donated to local community gardens for composting.

Concerned Citizens of Montauk (CCOM) embraces a science-based comprehensive watershed-driven approach to produce measurable water quality improvements. Conceived as a result of our extensive bacteria and HAB testing program, the Fort Pond Floating Wetlands project is just one of several approaches aimed at reducing pollutant loadings in Fort Pond and Montauk's surrounding waterbodies. Our outreach efforts include encouraging property owners to upgrade to new nitrogen-reducing septic systems through the Town's incentive program, having their cesspools or septic tanks serviced every 3-5 years, and committing to minimal or no use of lawn fertilizers.

This project was made possible this year by a grant from The Long Island Community Foundation (LICF).

FLOATING WETLANDS IMPROVE WATER QUALITY IN SEVERAL WAYS:

- Plants use potentially harmful excess nitrogen and phosphorus – deposited into surface waters by stormwater runoff and through groundwater from failing cesspools – as food.
- Plant roots and floating island material provide extensive surface area for positive microbes to grow, forming a layer of biofilm where the majority of nutrient uptake occurs.
- Wetlands contribute to better oxygenation of the pond and provide shade, keeping water temperatures lower and creating an environment difficult for harmful algae and bacteria to grow.
- Wetlands also create an ideal habitat for insects, fish, and aquatic birds.

Example Floating Wetland Installation

WHAT IS A HARMFUL ALGAL BLOOM (HAB)?

Nutrient pollution is the process where too many nutrients, mainly nitrogen, and phosphorus, are added to bodies of water by means of stormwater runoff and failing cesspools; these nutrients can act like fertilizer in the water and lead to excessive growth of algae, or simple plants that live suspended in marine and freshwater, causing poor water quality conditions.

While most algae are harmless and often play an integral part in any aquatic ecosystem, some, like blue-green algae (cyanobacteria), produce toxins that can be harmful to humans and animals. Sporadic HAB testing had previously detected such blooms in Fort Pond, but we lacked a clear understanding of their dynamics. Thus, in May 2018, CCOM partnered with the Gobler Laboratory at Stony Brook Southampton to begin a comprehensive harmful algal bloom (HAB) monitoring program in Fort Pond.

Now, every year beginning in mid-May and continuing through October, weekly samples are taken by CCOM and analyzed by the Gobler Lab. The results are posted to the NYS Department of Environmental Conservation's HAB Notifications website and are used by NYS and Suffolk County health departments for issuing health or swimming advisories. Our partnership, now in its 6th year, has established a rich dataset that serves as the foundation for understanding the extent of the problem – a first step toward devising effective solutions and remediation projects such as these Fort Pond Floating Wetlands.

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